Alcatel-Lucent 1850 TSS-3

TRANSPORT SERVICE SWITCH | RELEASE 1.1

The Alcatel-Lucent 1850 Transport Service Switch (TSS-3) is a carrier-grade network termination unit (NTU) that provides intelligent Ethernet service demarcation between the end customer and the service provider. It is part of the 1850 TSS family of packet transport products, which offers service differentiation, transport-grade resiliency, and operations, administration and maintenance (OAM) support.

The 1850 TSS-3 provides a mix of connectivity and network services, offering diagnostics, service monitoring, protection, quality of service (QoS), rate limiting, and virtual LAN (VLAN) stacking for Metro Ethernet Forum (MEF) compliant Ethernet services.

Available in six configurations, the 1850 TSS-3 provides a mix of copper and optical Ethernet on the customer side, and optical Ethernet and Ethernet over Plesiochronous Digital Hierarchy (PDH) on the network side.

Features

- Fast Ethernet/Gigabit Ethernet (FE/GigE) customer and network interfaces
- Ethernet over PDH network interfaces (E1/DS1, E3/DS3)
- QoS: Traffic classification, rate control and prioritization
- VLAN tagging and stacking
- Uplink redundancy
- Link OAM
- Compact, standalone or rack-mounted
- Standard configurations for simplified deployment

Benefits

- Intelligent Ethernet service demarcation
- Media conversion for Ethernet over any physical uplink
  - ¬ Ethernet over fiber
  - ¬ Ethernet over PDH, enabling reuse of existing E1/DS1 or E3/DS3 links for sites without fiber
- Quick rollout of carrier Ethernet services
- Rich features for QoS and service differentiation
- Manageable services end-to-end
- Leading-edge services over Ethernet, such as voice over IP (VoIP) and mobility backhaul

Technical Specifications

1850 TSS-3 Interfaces

Fiber

- 1000Base-SX
- 1000Base-LX
- 1000Base-ZX
- 1000Base-BX Bidirectional/ Single-fiber working
- 100Base-FX
- CWDM SFP (eight colors – SH, LH)
- SFP-based – MSA compliance
- Connector type: LC

Copper

Ethernet

- 10/100Base-T: twisted pair cables up to 100 m
- 1000Base-T: 4 pairs of category 5 twisted pair cables up to 100 m; SFP-based
- Connector type: RJ-45

PDH

- DS1 (1.544 Mb/s): D-type connector, balanced 100 ohm
- E1 (2.048 Mb/s): D-type connector, balanced 120 ohm in-skin, unbalanced 75 ohm via external balun
- E3 (34.368 Mb/s): BNC connector
- DS3 (44.736 Mb/s): BNC connector

Ethernet Functionality

- IEEE 802.3 Ethernet interfaces, 10/100/1000 Mb/s
- MAC bridging, IEEE 802.1D
- 8,000-MAC table
- VLAN bridging, IEEE 802.1Q
- Provider bridging, IEEE 802.1ad
- MEF E-Line, E-LAN services
- Ethernet in the First Mile (EFM) OAM, IEEE 802.3ah
- Port authentication, IEEE 802.1X
- Maximum frame size: 1632 bytes
- Multiple classification options (port, IEEE 802.1Q/802.1p bits, IP ToS/DSCP)
- Four classes of service
- Class-based queuing
- Forwarding criteria: port, port + MAC, port + VLAN
- SLA management/traffic profiles: best-effort, bandwidth-guaranteed, regulated (min. bandwidth plus burst)
- Ingress rate limiting with 62 kb/s granularity
- WRED-like congestion control
- Egress shaping
- Strict priority and WFQ scheduling
- Port-based statistics
- Ethernet fault propagation (link pass through)
- Link aggregation, IEEE 802.3ad (without LACP)
- Flexible port assignment (UNI/NNI)

PDH Functionality

- EoPDH GFP mapping (ITU-T G.8040)
- PDH VCAT (ITU-T G.7043)
- PDH OAM

Network Redundancy

Ethernet

- Dual homing on network side
- RSTP (IEEE 802.1D-2004)

PDH

- 1+1 path protection

Management

- Alcatel-Lucent 1350 Optical Management System (OMS)
- Command line interface
- HTTP-based craft terminal
- SNMPv2

Physical and Environmental

Size

- 376 mm × 44.45 mm × 215 mm (W × H × D)
- 1 RU
- 2.7 kg
- Standard ANSI or ETSI frames

Power

- 90 V to 240 V AC, 50/60 Hz
- Power consumption: 30 watts maximum

Environmental

- Operating temperature: –5 C to +45 C
- Humidity: up to 95%, non-condensing
- Seismic environment: Zone 4

Regulatory/Environmental Compliance

- EMC/EMI, EN 300 386 Class B
- UL/cUL 60950-1
- FCC Part 15B
- NEBS Level 3
- EN 300 019-2-3 class 3.2
- IEEE
- EU RoHS
- China RoHS

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